

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Group Art Unit _____

In re

Patent Application of

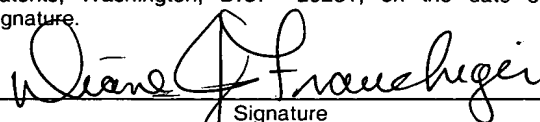
Craig E. Smith, et al.

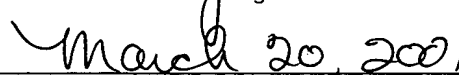
Serial No. _____

Filed: _____

Examiner: _____

I, Diane J. Frauchiger, hereby certify that this correspondence is being deposited with the US Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on the date of my signature.


Signature


Date of Signature

"PH DEPENDENT ION EXCHANGE MATRIX AND METHOD OF USE IN THE ISOLATION OF NUCLEIC ACIDS"

jc-918 U.S. PTO
09/813077
03/20/01

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 CFR §1.97(b)

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The Examiner's attention is directed to the references which are listed on the attached Form PTO/SB/08A and/or PTO/SB/08B, copies of which are not being provided herewith because, pursuant to 37 C.F.R. §1.98(d), copies were previously provided in U.S. Serial No. 09/312,172, filed May 14, 1999, which is being relied upon for an earlier filing date under 35 U.S.C. §120.

Citation of these references is respectfully requested.

Respectfully submitted,



Karen B. King
Reg. No. 41,898

File No. 16026-9182-03
Michael Best & Friedrich LLP
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ATTY. DOCKET NO.: 16026/9182
SERIAL NO.: 09/312,172
APPLICANT: Craig E. Smith et al.
FILING DATE: May 14, 1999
GROUP: 1631

INFORMATION DISCLOSURE
STATEMENT BY APPLICANT:

(Use several sheets if necessary)

09/813077
03/20/01

U.S. PATENT DOCUMENTS

EXAMINE R INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	BT	5,234,809	08/10/93	Boom <i>et al.</i>			
	BU	4,523,996	06/18/85	Charles <i>et al.</i>			
	BV	5,990,301	11/23/99	Colpan <i>et al.</i>			
	BW	5,155,018	10/13/92	Gillespie <i>et al.</i>			
	BX	5,783,686	07/21/98	Gonzalez, D.			
	BY	4,672,040	06/09/87	Josephson			
	BZ	5,075,430	12/24/91	Little, M.			
	CA	4,683,202	07/28/87	Mullis, K.			
	CB	5,808,041	09/15/98	Padhye <i>et al.</i>			
	CC	5,523,231	06/04/96	Reeve, M.			
	CD	5,681,946	10/28/97	Reeve, M.			
	CE	6,027,945	02/22/00	Smith <i>et al.</i>			
	CF	5,945,525	08/31/99	Uematsu <i>et al.</i>			
	CG	5,076,950	12/31/91	Ullman <i>et al.</i>			
	CH	4,695,393	09/22/87	Whitehead <i>et al.</i>			
	CI	5,610,274	03/11/97	Wong, Y.			
	CJ	5,734,020	03/31/98	Wong, Y.			

FOREIGN PATENT DOCUMENTS

EXAMINE R INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	CK	CA 2223821	06/06/96	Canada			
	CL	GB 2 074 892 A	11/11/81	Great Britain			
	CM	EP 0757106A2	02/05/97	Europe			
	CN	JP 9327290	12/22/97	Japan			
	CO	JP 9327291	12/22/97	Japan			
	CP	WO 98/31840	07/23/98	PCT			
	CQ	WO 96/36706	11/21/96	PCT			
	CR	WO 95/21179	08/10/95	PCT			
	CS	WO 96/16186	05/30/96	PCT			
	CT	WO 95/06652	03/09/95	PCT			
	CU	WO 98/31461	07/23/98	PCT			

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE
(Rev. 2-92) PATENT AND TRADEMARK OFFICE

ATTY. DOCKET NO.: 16026/9182
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APPLICANT: Craig E. Smith et al.
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(Use several sheets if necessary)

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

CV	Ausubel <i>et al.</i> , <i>Current Protocols in Molecular Biology</i> , Ch. 2 (DNA), Ch. 4 (RNA).
CW	Bitner, <i>et al.</i> , "Use of MagnaSil Paramagnetic Particles for Plasmid Purification, PCT Cleanup, and Purification of Dideoxy and Big Dye DNA Sequencing Reaction", <i>Proceedings of SPIE-Int. Soc. Opt. Eng.</i> (2000) Vol. 3926, No. 3926 pp 126-33.
CX	Boom, <i>et al.</i> , "Rapid and Simple Method for Purification of Nucleic Acids", <i>J. Clin. Microbiol.</i> , (1990) 28:495-503.
CY	Brown, <i>et al.</i> , "Anion-Cation Separations on a Mixed Bed Alumina-Silica Column", <i>J. Chromatog.</i> (1989) Vol. 466, No. 1 + index pp. 291-300.
CZ	Kirk-Othmer, <i>Encyclopedia of Chemical Technology</i> , (1997) Vol. 21, 4th ed., 1997, pp. 1021-1022.
DA	Marko <i>et al.</i> , "A Procedure for the Large-Scale Isolation of Highly Purified Plasmid DNA Using Alkaline Extraction and Binding to Glass Powder", <i>Anal. Biochem.</i> (1982) 121:382-387.
DB	Promega, Technical Bulletin No. 202 "Wizard ® Plus Series 9600™ DNA Purification System, (Promega Corp.) (9/98).
DC	Promega, Technical Bulletin No. 225 "Wizard ® Plus SV Minipreps DNA Purification System, (Promega Corp.) (9/99).
DD	Promega, Technical Bulletin No. 259 "Wizard ® PureFection Plasmid DNA Purification System, (Promega Corp.) (9/99).
DE	QuantiBlot Human DNA Quantitation System, PE Applied Biosystems, 2/5/96, page 1-5 (http://www.pebio.com/fo/773503/773503.html).
DF	Sambrook, <i>et al.</i> , <i>Molecular Cloning a Laboratory Manual</i> , 2nd ed. pp. 1.25-1.28. (1989).
DG	Vogelstein <i>et al.</i> , "Preparative and Analytical Purification of DNA from Agarose", <i>Proc. Natl. Acad. Sci.</i> (1979) Vol. 76, No. 2:615-619.

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STATEMENT BY APPLICATION

APPLICANT: Craig Smith et al.

(Use several sheets if necessary)

FILING DATE: May 14, 1999

GROUP: 1744

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	4,233,169	11/11/80	Beall et al.			
	AB	4,297,337	10/27/81	Mansfield et al.			
	AC	4,395,271	07/26/83	Beall et al.			
	AD	4,699,717	10/13/87	Riesner et al.			
	AE	4,767,670	08/30/88	Cox et al.			
	AF	5,057,426	10/15/91	Henco et al.			
	AG	5,316,680	05/31/94	Frechet et al.			
	AH	5,346,994	09/13/94	Chomczynski			
	AI	5,389,449	02/14/95	Afeyan et al.			
	AJ	5,395,498	03/07/95	Gombinsky et al.			
	AK	5,582,988	12/10/96	Backus et al.			
	AL	5,652,348	07/29/97	Burton et al.			
	AM	5,658,548	08/19/97	Padhye et al.			
	AN	5,585,236	12/17/96	Bonn et al.			
	AO	5,660,984	08/26/97	Davis et al.			
	AP	5,728,822	03/17/98	Macfarlane			
	AQ	5,747,663	05/05/98	Colpan et al.			

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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
	AR	DE 43 07 262 A1					Yes
	AS	WO 83/03363					
	AT	WO 95/06652					
	AU	WO 97/29825					
	AV	WO 98/31840					

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

EXAMINER	AW	Bischoff, Rainer and Larry W. McLaughlin. <u>Nucleic Acid Resolution By Mixed-Mode Chromatography</u> . <i>Journal of Chromatography</i> (1984) 296:329-337.	DATE CONSIDERED
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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

AX	Bischoff, Rainer and Larry W. McLaughlin. <u>Chemically Synthesized Hydrophobic Anion-Exchange High-Performance Liquid Chromatography Supports Used for Oligonucleotide Resolution By Mixed Mode Chromatography</u> . <i>Journal of Chromatography</i> . (1983) 270:117-126.
AY	Cotton, M. et al. 1994, <i>Gene Therapy</i> 1:239-246.
AZ	Crowther, Jonathan B. <u>High-Performance Liquid Chromatographic Separation of Oligonucleotides and Other Nucleic Acid Constituents on Multifunctional Stationary Phases</u> . <i>Journal of Chromatography</i> (1983) 282:619-628.
BA	Edwardson P.A.D., et al. <u>Separation and purification of oligonucleotides using a new bonded-phase packing material</u> . <i>Journal of Chromatography</i> (1991)545:79-89.
BB	Floyd, Thomas R. et al., <u>Mixed-Mode Hydrophobic Ion Exchange for the Separation of Oligonucleotides and DNA Fragments Using HPLC</u> . <i>Analytical Biochemistry</i> (1986) 154:570-577.
BC	F. Ausubel et al., eds., <u>Current Protocols in Molecular Biology</u> , Wiley-Interscience, New York (1993).
BD	Gjerde, Douglas T. <u>Ion Chromatography</u> . <i>Dr. Alfred Hothig Verlag Heidelberg</i> (1987) 2 nd Edition. New York.
BE	Goldsborough, Mindy D. <u>High Purity Plasmid DNA from Anion Exchange Chromatography</u> . <i>Focus</i> (1998) Volume 20 Number 3.
BF	Hirabayashi, Jun, <u>Applied slalom chromatography Improved DNA separation by the use of columns developed for reversed-phase chromatography</u> . <i>Journal of Chromatography</i> (1996) 722:135-142.
BG	Kirk-Othmer Encyclopedia of Chemical Technology, Vol. 21, Mary Howe-Grant, ed., John Wiley & Sons, pub. 1997, pp. 1020-1023.
BH	Little, Edward L. Mark S. Jeansonne, and Joe P. Foley. <u>Sequential Multimodal Elution for Pseudomultidimensional Liquid Chromatography on a Single Column</u> . <i>Anal. Chem</i> (1991) 63:33-44.
BI	Maa, Yih-fen et al. <u>Rapid high-performance liquid chromatography of nucleic acids with polystyrene-based micropellicular anion exchangers</u> . <i>Journal of Chromatography</i> (1990)508:61-73
BJ	Machrey-Nagel homepage on the Internet on 6/12/98, at http://www.machrey-nagel.com .
BK	McLaughlin L.M., <i>Chem Rev</i> (1989) 89: 309-319, at p. 309.

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OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

BL	Molecular Cloning, ed. By Sambrook et al. (1989), pub. By Cold Spring Harbor Press, pp. 1.42-1.50.
BM	Morrison, David C. 1987, <i>Ann. Rev. Med.</i> 38:417-32.
BN	Patent '680; Little E.L. et al., <i>Anal. Chem.</i> (1991) 63: 33.
BO	Rassi Ziad El, and Csaba Horvath. <u>Tandem Columns and Mixed-Bed Columns in High-Performance Liquid Chromatography of Proteins.</u> <i>Journal of Chromotography.</i> (1986) 359:255-264.
BP	W. Jost, et al. <i>J. Chromatog.</i> 185 (1979) 403-412.
BQ	Waterborg, Jakob H. and Anthony J. Robertson. <u>Efficient large-scale purification of restriction fragments by solute-displacement ion-exchange HPLC.</u> <i>Nucleic Acids Research</i> (1993) Vol. 21, No. 12:2913-2915.
BR	Weber, M. et al. 1995, <i>BioTechniques</i> 19(6):930-939.
BS	Wheatley J.B., <i>J. Chromatogr.</i> (1992) 603: 273.

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